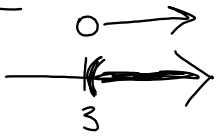



$$\begin{array}{r}
 x+6 < 5x-6 \\
 -5x \quad -5x \\
 \hline
 -4x+6 < -6 \\
 -6 \quad -6 \\
 \hline
 -4x < -12 \\
 \frac{-4x}{-4} < \frac{-12}{-4} \\
 x > 3
 \end{array}$$


A number line with an open circle at 3 and an arrow pointing to the right, representing the solution set  $x > 3$ .

Jan 15-8:18 AM


5.

$$\begin{array}{r}
 4 - 2x \leq 2x + 16 \\
 +2x \quad +2x \\
 \hline
 4 \leq 4x + 16 \\
 -16 \quad -16 \\
 \hline
 -12 \leq 4x \\
 \frac{-12}{4} \leq \frac{4x}{4} \\
 -3 \leq x
 \end{array}$$


A number line with a closed circle at 3 and an arrow pointing to the right, representing the solution set  $x \geq 3$ .

Jan 15-8:22 AM

15

$$\begin{array}{r}
 4x(x-2) < 2(2x-1)(x-3) \\
 4x^2 - 8x < 2(2x^2 - 6x - x + 3) \\
 4x^2 - 8x < 4x^2 - 14x + 6 \\
 -8x < -14x + 6 \\
 +14x \quad +14x \\
 6x < 6 \\
 x < 1
 \end{array}$$


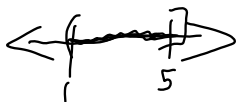
A number line with an open circle at 1 and an arrow pointing to the left, representing the solution set  $x < 1$ .

Jan 15-8:25 AM

25

$$\begin{array}{r}
 -4 \leq 6 - 2x < 4 \\
 -6 \quad -6 \\
 -10 \leq -2x < -2 \\
 \frac{-10}{-2} \leq \frac{-2x}{-2} < \frac{-2}{-2} \\
 5 \leq x < 1
 \end{array}$$

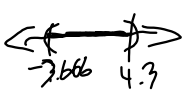
(1, 5]



A number line with an open circle at 1 and a closed circle at 5, with an arrow pointing to the right between them, representing the solution set  $1 < x \leq 5$ .

Jan 15-8:31 AM


27.

$$\begin{array}{r}
 -5 < \frac{1}{2}(3x+1) < 7 \\
 -5 \quad 1.5x + .5 \\
 \frac{-5}{1.5} < \frac{1.5x + .5}{1.5} < \frac{7}{1.5} \\
 (-3.\bar{6}, 4.\bar{3})
 \end{array}$$


A number line with open circles at -3.6 and 4.3, with an arrow pointing to the right between them, representing the solution set  $-3.6 < x < 4.3$ .

Jan 15-8:37 AM

29.

$$\begin{array}{r}
 3x \leq -6 \text{ or } x-1 > 0 \\
 \frac{3x}{3} \leq \frac{-6}{3} \text{ or } x > 1 \\
 x \leq -2 \text{ or } x > 1
 \end{array}$$


A number line with a closed circle at -2 and an open circle at 1, with arrows pointing to the left from -2 and to the right from 1, representing the solution set  $x \leq -2$  or  $x > 1$ .

Jan 15-8:42 AM

37)  $y = 12.7x + 15.2$   
 $12.7x + 15.2 > 66.0$  2006 +  
 $\frac{12.7x}{12.7} > \frac{50.8}{12.7}$  Rnd  
 $x > 4$

Jan 15-8:44 AM

39.  $55x < 100 + 30x$   
 $-30x$   
 $\frac{25x}{25} < \frac{100}{25}$   
 $x < 4$   
 Fewer than 4 hours  
 + Revor  
 feed

Jan 15-8:48 AM

41.  $0.04x + (7500 - x) 0.05 \geq 375$   
 $0.04x + 375 - 0.05x \geq 375$   
 $-0.01x \geq -50$   
 $x \geq 5000$   
 np

Jan 15-8:50 AM

43.  $5 + .1x < .35x$   
 $5 < .25x$   
 $\frac{5}{.25} < \frac{.25x}{.25}$   
 $x > 20$  more than 20  
 Courtney

Jan 15-8:53 AM

⑤  $4 - 2x \leq 16$   
 $-4$   
 $-2x \leq 12$   
 $-2x \leq 12$   
 $-4x \leq 12$   
 $\frac{-4x}{-4} \leq \frac{12}{-4}$   
 $x \geq -3$   
 $[-3, \infty)$

Jan 15-8:58 AM

⑤  $x(x-2) < 2(2x-1)(x-3)$   
 $x^2 - 2x < (4x-2)(x-3)$   
 $x^2 - 2x < 4x^2 - 12x - 2x + 6$   
 $x^2 - 2x < 4x^2 - 14x + 6$   
 $-8x < -14x + 6$   
 $+14x$   
 $\frac{6x}{6} < \frac{6}{6}$   
 $x < 1$  GB  
 $(-\infty, 1)$

Jan 15-9:40 AM

$$\begin{aligned}
 X &\leq 3 \rightarrow (-\infty, 3] \\
 X &> 5 \rightarrow (5, \infty) \\
 2 &\leq X < 7 \rightarrow [2, 7) \\
 X &< 3 \text{ or } X \geq 10 \rightarrow (-\infty, 3) \cup [10, \infty)
 \end{aligned}$$

Jan 15-9:49 AM

$$\begin{aligned}
 25) \quad -4 &\leq 6 - 2x < 4 \\
 -6 &\quad -6 \quad -6 \\
 -10 &\leq -2x < -2 \\
 \frac{-10}{-2} &\leq \frac{-2x}{-2} < \frac{-2}{-2} \\
 5 &\leq x < 1 \\
 1 &< x \leq 5
 \end{aligned}$$

*Jaime Montgomery*

Jan 15-9:50 AM

$$\begin{aligned}
 27) \quad -5 &< \frac{1}{2}(3x+1) < 7 \\
 -5 &\times 1.5x + .5 < 7 \\
 -5 &\quad -5 \quad -5 \\
 -5.5 &\leq 1.5x \leq 6.5 \\
 \frac{-5.5}{1.5} &\leq \frac{1.5x}{1.5} \leq \frac{6.5}{1.5} \\
 -3.\bar{6} &\leq x \leq 4.\bar{3} \\
 (-3.\bar{6}, 4.\bar{3})
 \end{aligned}$$

Jan 15-9:53 AM

$$\begin{aligned}
 5) \quad 4 - 2x &\leq 2x + 16 \\
 +2x &\quad +2x \\
 4 &\leq 4x + 16 \\
 -16 &\quad -16 \\
 -12 &\leq 4x \\
 \frac{-12}{4} &\leq x \\
 -3 &\leq x \\
 x &\geq -3
 \end{aligned}$$

$[-3, \infty)$

*BM*

Jan 15-11:14 AM

$$\begin{aligned}
 15) \quad 4x(x-2) &< 2(2x-1)(x-3) \\
 4x^2 - 8x &< 2(2x^2 - 6x - x + 3) \\
 4x^2 - 8x &< 4x^2 - 14x + 6 \\
 -8x &< -14x + 6 \\
 6x &\leq 6 \\
 x &\leq 1
 \end{aligned}$$

*HW*

Jan 15-11:18 AM

$$\begin{aligned}
 25) \quad -4 &\leq 6 - 2x < 4 \\
 -6 &\quad -6 \quad -6 \\
 -10 &\leq -2x < -2 \\
 \frac{-10}{-2} &\leq \frac{-2x}{-2} < \frac{-2}{-2} \\
 5 &\leq x < 1 \\
 1 &< x \leq 5
 \end{aligned}$$

*Correct*

Jan 15-11:26 AM

27)  $-5 < \frac{1}{2}(3x+1) < 7$

*Adding fractions*

$$\begin{array}{r} -5 < 1.5x + .5 < 7 \\ -5 < 1.5x + .5 < 7 \\ -5.5 < 1.5x < 6.5 \end{array} \leftarrow \text{Khan Academy}$$

$$\frac{-5.5}{1.5} < \frac{1.5x}{1.5} < \frac{6.5}{1.5}$$

$$-1\frac{1}{3} < x < 1\frac{2}{3}$$

Jan 15-11:32 AM

29)  $\frac{3x}{3} \leq \frac{-6}{3}$        $\frac{x-1}{1} > \frac{0}{1}$

$x \leq -2$        $x > 1$

*Below in*

$(-\infty, -2] \cup (1, \infty)$

Jan 15-11:36 AM

37)  $y = 12.7x + 15.2$  *→ yrs after 2002*

$12.7x + 15.2 > 66$  after 2006

$\frac{12.7x}{12.7} > \frac{50.8}{12.7}$

$x > 4$

*Mr. Bee*

Jan 15-11:39 AM

39) Hanks < Acme

$55x < 100 + 30x$

Jan 15-11:43 AM

41) \$7500       $I = prt$

$x @ 4\%$

$7500 - x @ 5\%$

$.04x + .05(7500 - x) \geq 325$

Jan 15-11:44 AM

43) Simple < No frills

$5 + .10x < .35x$

Jan 15-11:47 AM

45)  $B > A$

$$1200 + .15(x - 8000) > 900 + .10x$$

Jan 15-11:48 AM

5.  $4 - 2x \leq 2x + 16$   
 $+2x \quad +2x$   
 $[3, \infty)$   
 $4 \leq 4x + 16$   
 $-3 \quad -16$   
 $16$   
 $12 \leq 4x$   
 $\frac{12}{4} \leq \frac{4x}{4}$   
 $3 \leq x$   
 $x \geq 3$   
*Talisha DeLeon*

Jan 15-12:37 PM

15.

$$4x(x-2) < 7(2x-1)(x-3)$$

$$4x^2 - 8x < (4x - 2)(x - 3)$$

$$4x^2 - 8x < 4x^2 - 12x - 2x + 6$$

$$4x^2 - 8x < 4x^2 - 14x + 6$$

$$6x < 6$$
  
 $x < 1$   
 $(-\infty, 1)$   
*Talisha DeLeon*

Jan 15-12:43 PM

25.

$$\begin{array}{rcl} -4 \leq 6 & -2x \leq 4 \\ \cdot (-1) & \cdot (-1) & \cdot (-1) \\ 4 \geq -6 & 2x \geq -4 \\ \cdot 2 & \cdot 2 & \cdot 2 \\ 8 \geq -2 & x \geq -2 \end{array}$$

$(1, 5]$   $5 \geq x > 1$   
 $1 < x \leq 5$   
 $1$   $5$   
*Talisha DeLeon*

Jan 15-12:52 PM

27.  $-5 < \frac{1}{2}(3x+1) < 7$

$$\begin{array}{rcl} -5 & < & 1.5x + .5 < 7 \\ -5 & & -5 \quad -5 \end{array}$$

$$\begin{array}{rcl} -5.5 & < & 1.5x < 6.5 \\ \cdot 1.5 & & \cdot 1.5 \quad \cdot 1.5 \end{array}$$

$$-11/3 < x < 13/3 \quad (-11/3, 13/3)$$
  
 $-11/3$   $13/3$   
*Talisha DeLeon*

Jan 15-12:57 PM

29.)

$$\begin{array}{rcl} 3x \leq -6 & \text{or} & x - 1 > 0 \\ \cdot 3 & & \cdot 1 \\ x \leq -2 & \text{or} & x > 1 \end{array}$$

$(-\infty, -2] \cup (1, \infty)$   
 $-2$   $1$   
*Talisha DeLeon*

Jan 15-1:02 PM

$$31) y = 12.7x + 15.2$$

$$12.7x + 15.2 > 66$$

$$\begin{array}{r} -15.2 \quad -15.2 \\ \hline \end{array}$$

$$\frac{12.7x > 50.8}{12.7}$$

$$x > 4$$

years after  
2006  
2006+

back again

Jan 15-1:07 PM

$$39) \text{ Hank's} < \text{Acme}$$

$$\begin{array}{r} 55x < 100 + 30x \\ -30x \quad -30x \\ \hline \end{array}$$

$$\frac{25x < 100}{25} \quad \frac{25}{25}$$

$$x < 4$$

For fewer than 4 hrs Hank's is <sup>cheaper</sup>

Jan 15-1:10 PM

$$41) \quad \$7500$$

$$x @ 4\%$$

$$7500 - x @ 5\%$$

$$.04x + .05(7500 - x) \geq 325$$

Jan 15-1:13 PM

$$43) \quad \text{Simple} < \text{No frills}$$

$$5 + .10x < .35x$$

Jan 15-1:17 PM

$$45) \quad A: 900 + .10x$$

$$B: 1200 + .15(x - 8000)$$

$$B > A$$

Jan 15-1:19 PM